



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,453	02/22/2002	Yochay Danziger	LCP-015	6654

29730 7590 02/12/2004

LASERCOMM, INC. C/O SHERWOOD PARTNERS
1849 SAWTELLE BLVD
SUITE 543
LOS ANGELES, CA 90025

EXAMINER

HUGHES, DEANDRA M

ART UNIT PAPER NUMBER

3663

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/079,453	Applicant(s) DANZIGER ET AL.	
	Examiner Deandra M Hughes	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/3/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 12-20 are objected to because they depend upon 'the method of claim 10'. However, claim 10 is not a method claim. It appears as if the applicant made a minor typographical error and intended for claims 12-20 to depend upon claim 11. In the interest of compact prosecution, the Examiner has examined claims 12-20 as if they depended upon the method of claim 11. In response to this office action, appropriate correction of the claims is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 9-11, 13, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong (US 6,453,102 filed Jul. 20, 2000) in view of Byron (US 6,215,929 filed Dec. 20, 1998).

With regard to claim 1, Dong discloses a dispersion management device comprising:

- a mode transformer (fig. 3, 16b);
- a high order mode dispersion compensating fiber (fig. 3 on spool 17) in optical communication with a first port (from 17 to 16b via 15) of said mode transformer;

Art Unit: 3663

- a trim fiber (fig. 1, 12) in optical communication with a second port (16b to 12) of said mode transformer.

Dong does not specifically disclose a Raman pump in communication with the said trim fiber for inducing gain to compensate for incurred losses. However, Byron teaches the use of Raman amplification to compensate for losses incurred by dispersion compensation (col. 3, lines 40-60; and fig. 2). It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) at the time the invention was made to use pump the trim fiber for the advantage of compensating for incurred losses via Raman amplification.

With regard to claim 3, a net gain of 5 dB is disclosed (col. 1, lines 46-55).

With regard to claims 9-10, transverse and longitudinal mode converters are disclosed (col. 4, lines 10-40).

Claims 11, 13, 19-20 are merely the method of normal operations of apparatus claims 1, 3, 9-10, respectively.

4. Claims 2, 4-5, 12, and 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Dong (US 6,453,102 filed Jul. 20, 2000) in view of Byron (US 6,215,929 filed Dec. 20, 1998) as applied to claims 1 and 11, respectively above, and further in view of Dominic (US 2003/0076577 filed Dec. 22, 2000). Dong in view of Byron does not specifically disclose a controllable multiple pump source connected via a WDM coupler. However, Dominic teaches a controllable (62) multiple pump source (54-56) connected via WDM (fig. 24, #73 – pump connection via a WDM is well-known) for pumping a transmission fiber to induce Raman gain. It would have been obvious to

Art Unit: 3663

one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a controllable multiple pump source to induce Raman gain for the advantage of stable Raman pumping.

Claims 12 and 14-15 are merely the method of normal operations of apparatus claims 2 and 4-5, respectively.

5. Claims 6-8 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong (US 6,453,102 filed Jul. 20, 2000) in view of Byron (US 6,215,929 filed Dec. 20, 1998) as applied to claims 1 and 11, respectively above, and further in view of Hansen (US 2001/0036347 filed Jan. 30, 2001). Dong in view of Byron does not specifically disclose that the trim fiber is a dispersion-shifted fiber or a reverse dispersion fiber. However, Hansen teaches the use of non-zero dispersion shifted fiber and negative (reverse) dispersion fiber (paragraphs [0008] and [0041]) for dispersion control of the propagating signal. It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) at the time the invention was made to use non-zero dispersion shifted fiber and/or reverse dispersion fiber for the advantage of minimizing dispersion as the optical signal propagates in the fiber.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shoval and Poole disclose dispersion compensators with mode converters.

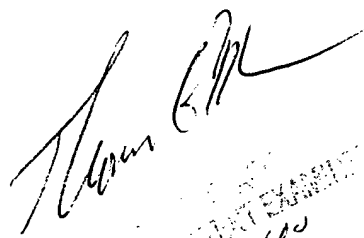
Art Unit: 3663

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Black can be reached on 703-305-9707. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DMH


THOMAS G BLACK
3663

Notice of References Cited	Application/Control No. 10/079,453	Applicant(s)/Patent Under Reexamination DANZIGER ET AL.	
	Examiner Deandra M Hughes	Art Unit 3663	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,360,045 B1	03-2002	Shoval et al.	385/123
	B	US-5,261,016 A	11-1993	Poole, Craig D.	385/28
	C	US-6,453,102 B1	09-2002	Dong et al.	385/123
	D	US-2003/0076577 A1	04-2003	Dominic et al.	359/334
	E	US-2001/0036347	11-2001	Hansen et al.	385/123
	F	US-6,215,929 B1	04-2001	Byron, Kevin Christopher	385/37
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**NOTICE OF OFFICE PLAN TO CEASE SUPPLYING COPIES OF CITED U.S. PATENT
REFERENCES WITH OFFICE ACTIONS, AND PILOT TO EVALUATE THE
ALTERNATIVE OF PROVIDING ELECTRONIC ACCESS TO SUCH U.S. PATENT
REFERENCES**

Summary

The United States Patent and Trademark Office (Office or USPTO) plans in the near future to: (1) cease mailing copies of U.S. patents and U.S. patent application publications (US patent references) with Office actions except for citations made during the international stage of an international application under the Patent Cooperation Treaty and those made during reexamination proceedings; and (2) provide electronic access to, with convenient downloading capability of, the US patent references cited in an Office action via the Office's private Patent Application Information Retrieval (PAIR) system which has a new feature called "E-Patent Reference." Before ceasing to provide copies of U.S. patent references with Office actions, the Office shall test the feasibility of the E-Patent Reference feature by conducting a two-month pilot project starting with Office actions mailed after December 1, 2003. The Office shall evaluate the pilot project and publish the results in a notice which will be posted on the Office's web site (www.USPTO.gov) and in the Patent Official Gazette (O.G.). In order to use the new E-Patent Reference feature during the pilot period, or when the Office ceases to send copies of U.S. patent references with Office actions, the applicant must: (1) obtain a digital certificate from the Office; (2) obtain a customer number from the Office, and (3) properly associate applications with the customer number. The pilot project does not involve or affect the current Office practice of supplying paper copies of foreign patent documents and non-patent literature with Office actions. Paper copies of references will continue to be provided by the USPTO for searches and written opinions prepared by the USPTO for international applications during the international stage and for reexamination proceedings.

Description of Pilot Project to Provide Electronic Access to Cited U.S. Patent References

On December 1, 2003, the Office will make available a new feature, E-Patent Reference, in the Office's private PAIR system, to allow more convenient downloading of U.S. patents and U.S. patent application publications. The new feature will allow an authorized user of private PAIR to download some or all of the U.S. patents and U.S. patent application publications cited by an examiner on form PTO-892 in Office actions, as well as U.S. patents and U.S. patent application publications submitted by applicants on form PTO/SB08 (1449) as part of an IDS. The retrieval of some or all of the documents may be performed in one downloading step with the documents encoded as Adobe Portable Document format (.pdf) files, which is an improvement over the current page-by-page retrieval capability from other USPTO systems.

Steps to Use the New E-Patent Reference Feature During the Pilot Project and Thereafter

Access to private PAIR is required to utilize E-Patent Reference. If you don't already have access to private PAIR, the Office urges practitioners, and applicants not represented by a practitioner, to take advantage of the transition period to obtain a no-cost USPTO Public Key Infrastructure (PKI) digital certificate, obtain a USPTO customer number, associate all of their pending and new application filings with their customer number, install no-cost software (supplied by the Office) required to access private PAIR and E-Patent Reference feature, and make appropriate arrangements for Internet access. The full instructions for obtaining a PKI digital certificate are available at the Office's Electronic Business Center (EBC) web page at: <http://www.uspto.gov/ebc/downloads.html>. Note that a notarized signature will be required to obtain a digital certificate.

To get a Customer Number, download and complete the Customer Number Request form, PTO-SB125, at: <http://www.uspto.gov/web/forms/sb0125.pdf>. The completed form can then be transmitted by facsimile to the Electronic Business Center at (703) 308-2840, or mailed to the address on the form. If you are a registered attorney or patent agent, then your registration number must be associated with your customer number. This is accomplished by adding your registration number to the Customer Number Request form. A description of associating a customer number with an application is described at the EBC web page at: http://www.uspto.gov/ebc/registration_pair.html.

The E-Patent Reference feature will be accessed using a new button on the private PAIR screen. Ordinarily all of the cited U.S. patent and U.S. patent application publication references will be available over the Internet using the Office's new E-Patent Reference feature. The size of the references to be downloaded will be displayed by E-Patent Reference so the download time can be estimated. Applicants and registered practitioners can select to download all of the references or any combination of cited references. Selected references will be downloaded as complete documents as Adobe Portable Document Format (.pdf) files. For a limited period of time, the USPTO will include a copy of this notice with Office actions to encourage applicants to use this new feature and, if needed, to take the steps outlined above in order to be able to utilize this new feature during the pilot and thereafter.

During the two-month pilot, the Office will evaluate the stability and capacity of the E-Patent Reference feature to reliably provide electronic access to cited U.S. patent and U.S. patent application publication references. While copies of U.S. patent and U.S. patent application publication references cited by examiners will continue to be mailed with Office actions during the pilot project, applicants are encouraged to use the private PAIR and the E-Patent Reference feature to electronically access and download cited U.S. patent and U.S. patent application publication references so the Office will be able to objectively evaluate its performance. The public is encouraged to submit comments to the Office on the usability and performance of the E-Patent Reference feature during the pilot. Further, during the pilot period registered practitioners, and applicants not represented by a practitioner, are encouraged to experiment with the feature, develop a proficiency in using the feature, and establish new internal processes for using the new access to the cited U.S. patents and U.S. patent application publications to prepare for the anticipated cessation of the current Office practice of supplying copies of such cited

references. The Office plans to continue to provide access to the E-Patent Reference feature during its evaluation of the pilot.

Comments

Comments concerning the E-Patent Reference feature should be in writing and directed to the Electronic Business Center (EBC) at the USPTO by electronic mail at eReference@uspto.gov or by facsimile to (703) 308-2840. Comments will be posted and made available for public inspection. To ensure that comments are considered in the evaluation of the pilot project, comments should be submitted in writing by January 15, 2004.

Comments with respect to specific applications should be sent to the Technology Centers' customer service centers. Comments concerning digital certificates, customer numbers, and associating customer numbers with applications should be sent to the Electronic Business Center (EBC) at the USPTO by facsimile at (703) 308-2840 or by e-mail at EBC@uspto.gov.

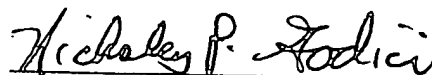
Implementation after Pilot

After the pilot, its evaluation, and publication of a subsequent notice as indicated above, the Office expects to implement its plan to cease mailing paper copies of U.S. patent references cited during examination of non provisional applications on or after February 2, 2004; although copies of cited foreign patent documents, as well as non-patent literature, will still be mailed to the applicant until such time as substantially all applications have been scanned into IFW.

For Further Information Contact

Technical information on the operation of the IFW system can be found on the USPTO website at <http://www.uspto.gov/web/patents/ifw/index.html>. Comments concerning the E-Patent Reference feature and questions concerning the operation of the PAIR system should be directed to the EBC at the USPTO at (866) 217-9197. The EBC may also be contacted by facsimile at (703) 308-2840 or by e-mail at EBC@uspto.gov.

Date. 12/1/03



Nicholas P. Godici
Commissioner for Patents

The United States Patent and Trademark Office has changed certain mailing addresses!

Effective May 1, 2003

Use the address provided in this flyer after May 1, 2003 for any correspondence with the United States Patent and Trademark Office (USPTO) in patent-related matters to organizations reporting to the Commissioner for Patents.

DO NOT USE the Washington DC 20231 and P.O. Box 2327 Arlington, VA 22202 addresses after May 1, 2003 for any correspondence with the USPTO even if these old addresses are indicated in the accompanying Office action or Notice or in any other action, notice, material, form, instruction or other information.

Correspondence in patent-related matters to organizations reporting to the Commissioner for Patents must now be addressed to:



**Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**



Special Mail Stop designations to replace Special Box designations

Also effective May 1, 2003, the USPTO is changing the special Box designations for Patents and Trademarks to corresponding Mail Stop designations (e.g., "Box 4" will now be "Mail Stop 4").

For further information, see *Correspondence with the United States Patent and Trademark Office*, 68 *Fed. Reg.* 14332 (March 25, 2003). A copy of the *Federal Register* notice is available on the USPTO's web site at <http://www.uspto.gov/web/menu/current.html#register>

A listing of specific USPTO mailing addresses (See Patents – specific) will be available on the USPTO's web site on April 15, 2003 at <http://www.uspto.gov/main/contacts.htm>

Persons filing correspondence with the Office should check the rules of practice, the Official Gazette, or the Office's Internet Web site (www.uspto.gov) to determine the appropriate address and Mail Stop Designation (if applicable) for all correspondence being delivered to the USPTO via the United States Postal Service (USPS).

Questions regarding the content of this flyer should be directed to the Inventor Assistance Center at (703) 308-4357 or toll-free at 1-800-786-9199.

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

FORM-PTO-1449

INFORMATION DISCLOSURE STATEMENT



ATTORNEY DOCKET NO: LCP-015

APPLICANT(S): Danziger et al

SERIAL NO: 10/079,453

FILING DATE: February 22, 2002 GROUP:

U.S. PATENT DOCUMENTS

Exam. Initials	No.	Document Number	Publication Date	Name of Patentee or Applicant of Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
<i>DH</i>	A	U.S. 5,887,093	Mar. 23, 1999	Hansen et al.	Entire document especially Fig. 1 and abstract
<i>DH</i>	B	U.S. 6,091,873	Jul. 18, 2000	Matsuo et al.	Column 6, line 26 – 39 (Table 2)
<i>DH</i>	C	U.S. 6,178,038	Jan. 23, 2001	Taylor et al.	Entire document especially Fig. 1
<i>DH</i>	D	U.S. 6,263,139	Jul. 17, 2001	Kawakami et al.	Entire document especially Fig. 1 – 4
<i>DH</i>	E	U.S. 6,295,396	Sep. 25, 2001	Cao et al.	Fig. 1 and Fig. 5 – 8
<i>DH</i>	F	U.S. 6,292,288	Sep. 18, 2001	Akasaka et al.	Entire document especially Fig. 1 – 5
	G	U.S. 6,342,965	Jan. 29, 2002	Kinoshita	Entire document

FOREIGN PATENT DOCUMENT

EXAM. INIT.	Document Number	Publication Date	Name of Patentee or Applicant of Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T?
					<input type="checkbox"/>
					<input type="checkbox"/>

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)

EXAMINER

DEANDRA M. HUGHES

DATE CONSIDERED

Feb. 6, 2004

SABINA/PTO/IDS